



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/677,025

09/30/2003

Jeonghee M. Yoon

P16792

9377

25694

7590

10/27/2006

INTEL CORPORATION

P.O. BOX 5326

SANTA CLARA, CA 95056-5326

EXAMINER

YALEW, FIKREMARIAM A

ART UNIT

PAPER NUMBER

2136

DATE MAILED: 10/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/677,025	YOON ET AL.	
	Examiner	Art Unit	
	Fikremariam Yalew	2136	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner. .
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/30/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-28 have been examined.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 21-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Veil (US Patent No 6,138,239).
4. As per claim 21: Veil teaches an auxiliary processing system, comprising: a processor (See Fig 8 step 602); a memory coupled to the processor (See Fig 8 step 608); and a monitoring module capable of accessing the processor and the memory, the monitoring module further capable of monitoring and verifying software during runtime on a computer system (See Fig 8 steps 612,614 Master security co-processor, DMA controller and col 2 lines 54-62).
5. As per claim 22: Veil teaches the auxiliary processing system wherein the processor, the memory and the monitoring module are isolated from the computer system (See Fig 8 steps 600,612,614).
6. As per claim 23: Veil teaches the auxiliary processing system wherein the processor, memory and monitoring module reside within a virtual machine on the computer system (See Fig 3 step 104).

Art Unit: 2136

7. As per claim 24: Veil teaches the auxiliary processing system wherein the processor, memory and monitoring module reside on a separate device from the computer system (See Fig 3 step 104).
8. As per claim 25: Veil teaches the auxiliary processing system wherein the auxiliary system is capable of being coupled to a remote system (See Fig 3 step 104).
9. As per claim 26: Veil teaches the auxiliary processing system wherein the remote system is capable of providing the auxiliary processing system with information pertaining to the software on the computer system (See Veil col 2 line 53 through col 3 line 4).
10. As per claim 27: Veil teaches the auxiliary processing system according to Claim 26 wherein the remote system is further capable of providing the auxiliary processing system with baseline data for the software on the computer system (See Veil col 2 line 53 through col 3 line 12).
11. As per claim 28: Veil teaches the auxiliary processing system according to Claim 26 wherein the remote system is further capable of providing the auxiliary processing system with configuration data for the software on the computer system (See Veil col 2 line 53 through col 3 line 4).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2136

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Veil (US Patent No 6,138,239) in view of Angelo et al (hereinafter referred as Angelo) US Patent No 7,003,672 B2.

14. As per claims 1,12: Veil teaches a method/a medium of monitoring and verifying software on a data processing device, comprising: an auxiliary system monitoring the software during runtime on the computer, the auxiliary system existing independently of the computer's processor and memory (See Fig 3 step 122 and 45-49);

Veil does not explicitly teach the auxiliary system searching for a compromise to the software; and the auxiliary system restricting access to the computer if the compromise is identified.

However Angelo teaches the auxiliary system searching for a compromise to the software (See Fig 4 and 33-65);and the auxiliary system restricting access to the computer if the compromise is identified (See Fig 4 and 33-65). Therefore it would have been obvious to one ordinary skill in the art at that time the invention was made to employ the teachings method of Angelo within Veil in order to provide a security mechanism in a computer system to protect the software against unauthorized modification. (See Angelo lines 15-17)

15. As per claims 2,13: the combination of Veil and Angelo teach the method wherein the software during runtime is loaded into the computer's memory (See Fig 8

step 610 and col 5 line 65 through line 7).

16. As per claim 3,14: the combination of Veil and Angelo teach the method wherein searching for the compromise to the software further comprises examining portions of the computer's memory (See col 2 lines 64-13).

17. As per claim 4,15: the combination of Veil and Angelo teach claim 1 as recited above. Veil and Angelo do not explicitly teach the method wherein searching for the compromise to the software further comprises copying portions of the computer's memory into a memory on the auxiliary system to identify any compromises to the software.

However Nguyen teaches searching for the compromise to the software further comprises copying portions of the computer's memory into a memory on the auxiliary system to identify any compromises to the software (See claim 1 lines 5-10).

Therefore it would have been obvious to one ordinary skill in the art at that time the invention was made to employ the teachings method of Nguyen within the combination of Veil and Angelo inorder to provide a security mechanism in a computer system to protect the software against unauthorized modification.

18. As per claims 5,16: the combination of Veil and Angelo teach wherein restricting access to the computer further comprises: the auxiliary system alerting a remote system of the compromise (See Angelo Fig 4 step 206 and col 2 lines 32-52); and the remote system restricting access to the computer if the compromise is identified (See Angelo Fig 4 step 206 and col 2 lines 32-52).

19. As per claims 6,17: the combination of Veil and Angelo teach further comprising

Art Unit: 2136

a remote system providing the auxiliary system with information pertaining to the software (See Veil col 2 line 53 through col 3 line 4).

20. As per claims 7,18: the combination of Veil and Angelo teach the method according wherein providing the auxiliary system with information pertaining to the software further comprises providing the auxiliary system with baseline data for the software (See Veil col 2 line 53 through col 3 line 12).

21. As per claims 8: the combination of Veil and Angelo teach the method wherein the auxiliary system comprises a device having direct memory access ("DMA access") to the computer's memory (See Veil Fig 8 step 614).

22. As per claim 9: the combination of Veil and Angelo teach the method wherein the auxiliary system includes an intelligent network interface controller (See Veil Fig 8 step 620).

23. As per claim 10,19: the combination of Veil and Angelo teach the method wherein monitoring the software further comprises monitoring configuration data for the software (See Veil col 3 lines 5-12).

24. As per claim 11,20: the combination of Veil and Angelo teach the method wherein the configuration data for the software is loaded during runtime into the computer's memory (See Angelo col 2 lines 52-56).

Conclusion

25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO 892.

Art Unit: 2136

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fikremariam Yalew whose telephone number is 5712723852. The examiner can normally be reached on 9-5.

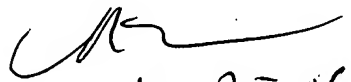
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Moazzami Nasser, can be reached on 5712738300. The fax phone number for the organization where this application or proceeding is assigned is 571-272-4195.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Fikremariam Yalew
10/24/06
FA

Art Unit 2136

NASSER MOAZZAMI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100



10/25/06